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PRE-APPEAL BRIEF REQUEST FOR REVIEW

Docket Number (Optional)
7000-424-1A

I hereby certify that this correspondence is being transmitted via facsimile on the date indicated below to:
Examiner: Phung Hoang Joseph Nguyen
Art Unit: 2614
Fax Number: 571-273-8300
on _____

Signature _____

Typed or printed
name _____

Application Number	Filed
10/599,088	9/19/2006

First Named Inventor
Chung-Cheung Chu et al.

Art Unit	Examiner
2614	Phung Hoang Joseph Nguye

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).
    Note: No more than five (5) pages may be provided.

I am the

☐ applicant/inventor.

☐ assignee of record of the entire interest.
See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed.
(Form PTO/SB/96)

☐ attorney or agent of record.
Registration number _____ .

☒ attorney or agent acting under 37 CFR 1.34. 39,877
Registration number if acting under 37 CFR 1.34 _____

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Signature
John R. Witcher, III
Typed or printed name

919-238-2300
Telephone number

October 5, 2009
Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required.
Submit multiple forms if more than one signature is required, see below*.

☒ *Total of ___3___ forms are submitted.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Chung-Cheung Chu et al.   Examiner: Phung Hoang Joseph Nguyen

Serial No. 10/599,088   Art Unit: 2614

Filed: 09/19/2006

For: **COMMUNICATING PROCESSING CAPABILITIES ALONG A COMMUNICATIONS PATH**

Mail Stop Appeals
Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

PRE-APPEAL BRIEF REQUEST FOR REVIEW

The current remarks provide the succinct and focused set of arguments for which review is being requested and accompany the concurrently filed Notice of Appeal.

Claims 1-22 are pending and are the subject of this pre-appeal brief request. Claims 1-22 were rejected under 35 U.S.C. § 112, second paragraph, as being "incomplete for omitting structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections." (Final Office Action mailed June 4, 2009, p. 2). In particular, the Patent Office argues that the "at least one of" clause for either sending or receiving leaves a structural gap. *Ibid.* Claim 1 recites a method of determining functions to provide at a given node forming part of a communication path comprising:

> at least one of:
>
>> sending from the given node, information identifying at least one of:
>>
>>> one or more local functions capable of being provided to traffic in the communication path by the given node; and
>>>
>>> if available, one or more remote functions capable of being provided to the traffic by other nodes forming part of the communication path; and
>>
>> receiving information from at least one other node forming part of the communication path, the information identifying the one or more remote functions; and
>
> determining whether any of the one or more local functions should be applied to the traffic based on criteria, which defines how the one or more local and remote functions are applied by the given node and other nodes and is available to the given node and other nodes.

It is important to note that claim 1 is a method from the perspective of a single node in a communication path. The method includes determining what functions to provide **at a given node forming part of a communication path**. Because claim 1 is from the perspective of a single node, the node is not required to perform both sending and receiving steps. There is no feedback requirement recited in the claims because no such feedback is required to practice the invention. However, the node performs at least one of the sending or receiving steps of claim 1. In addition, the method of claim 1 includes a determining step. Thus, the claimed method recites that a given node either: (A) sends information identifying at least one of: (1) one or more local functions capable of being provided to traffic in the communication path by the given node; and (2) if available, one or more remote functions capable of being provided to the traffic by other nodes forming part of the communication path, **and/or** (B) receives information from at least one other node forming part of the communication path, the information identifying the one or more remote functions. Thus, according to the claimed method, the node may either send certain information to another node, receive certain information from another node, or both, and then a determination is made as to whether any of the one or more local functions should be applied to the traffic based on criteria, which defines how the one or more local and remote functions are applied by the given node and other nodes and is available to the given node and other nodes.

The method of claim 1 does not omit an essential step. Each node in the communication path is not required to send and receive in order to practice the invention; a given node may only send certain information, or it may only receive certain information. It is not essential to practicing the claimed invention that a given node both send and receive the claimed information. But as long as it sends or receives the claimed information, and then performs the determining step, the claimed invention is performed. This is also made clear when looking at claim 12, which recites a communication node forming part of a communication path, where the communication node comprises a communication interface and a control system associated with the communication interface. The control system of the claimed node sends and/or receives the information identifying which functions are capable of being provided by which node or nodes, in a similar fashion as the method steps of claim 1, and then performs the determining step.

Features which are merely preferred are not to be considered critical and do not have to be included in the claim. M.P.E.P. § 2164.08(c). Moreover, a rejection based on the grounds that a disclosed critical limitation is missing from a claim should be made only when the

language of the specification makes it clear that the limitation is critical for the invention to function as intended. *Ibid.* Further, a claim does not necessarily fail to comply with 35 U.S.C. § 112, second paragraph, where the various elements do not function simultaneously, are not directly functionally related, do not directly intercooperate, and/or serve independent purposes. M.P.E.P. § 2172.01. In the present application, it is not required that a given node both receive and send information, although it may do so in a preferred embodiment. Since it is not critical for the given node to both receive and send information in embodiments other than the preferred embodiment, such is not required in the claim. The sending and receiving steps serve independent purposes and do not have to function simultaneously. Thus, claims 1 and 12 do not omit essential matter and are not improper under 35 U.S.C. § 112, second paragraph, and the rejections under 35 U.S.C. § 112, second paragraph, as being indefinite should be reversed.

Claims 1-22 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,463,454 B1 to Lumelsky et al. (hereinafter "Lumelsky"). For a reference to be anticipatory, the reference must disclose each and every claim element. Further, the elements of the reference must be arranged as claimed. M.P.E.P. § 2131. The requirement that each and every element be disclosed in the manner claimed is a rigorous standard that the Patent Office has not met in this case.

Lumelsky does not teach each and every element of the claimed invention. As set forth above, in the claimed invention, a given node performs at least one of the following steps (A) and (B): (A) sending from the given node, information identifying at least one of: one or more local functions capable of being provided to traffic in the communication path by the given node; and if available, one or more remote functions capable of being provided to the traffic by other nodes forming part of the communication path; and (B) receiving information from at least one other node forming part of the communication path, the information identifying the one or more remote functions.

Lumelsky does not teach the sending step of claim 1, *i.e.*, that a given node in the communication path sends information identifying at least one of: one or more local functions capable of being provided to traffic in the communication path by the given node; and if available, one or more remote functions capable of being provided to the traffic by other nodes forming part of the communication path. The Patent Office alleges that this limitation is taught by column 6, lines 28, 44, and 53-55 (Final Office Action mailed June 4, 2009, p. 3). The cited

3

portions of Lumelsky merely disclose an intermediary control node between clients and servers that manages the distribution and placement of objects onto servers according to a set criteria (Lumelsky, col. 6, lines 24-28 and 51-55). The system in Lumelsky provides mechanisms to shape demand and capacity according to certain criteria (Lumelsky, col. 6, lines 41-44). However, there is no mention in Lumelsky that the intermediary control node sends any information that identifies what **local functions** are capable of being provided to traffic **by that node**. Likewise, the cited portions of Lumelsky does not disclose that the intermediary control node sends information identifying any remote functions that other nodes in the communication path may provide to the traffic. In fact, there is no discussion in Lumelsky that any node beside the intermediary control node provides any management. Thus, Lumelsky does not teach that a given node sends information "identifying at least one of: one or more **local functions** capable of being provided to traffic in the communication path **by the given node**; and if available, one or more **remote functions** capable of being provided to the traffic by **other nodes** forming part of the communication path," as recited in both claims 1 and 12.

Lumelsky also does not teach the receiving step, *i.e.*, that a given node receives information from other nodes identifying one or more remote functions capable of being provided to the traffic by the other nodes forming part of the communication path, as recited in claims 1 and 12. As set forth above, only the intermediary control node in Lumelsky provides any management. There is no teaching that the intermediary control node "receives information from other nodes identifying one or more remote functions capable of being provided to the traffic by the other nodes." The Patent Office cites to column 12, lines 4 and 5 of Lumelsky as allegedly teaching this limitation (Final Office Action mailed June 4, 2009, p. 4). The cited portion of Lumelsky merely states that the intermediate control node includes a demand analysis module that examines a stream of requests and generates a list of the most requested objects. There is no mention of any remote functions, or of receiving information identifying remote functions that other nodes may provide. Thus, Lumelsky also fails to teach "receiving information **from at least one other node** forming part of the communication path, the information **identifying the one or more remote functions**," as recited both claims 1 and 12.

Moreover, Lumelsky does not disclose determining whether any of the one or more local functions should be applied to the traffic based on criteria, which defines how the one or more local and remote functions are applied by the given and other nodes and is available to the given

4

node and other nodes. The Patent Office cites to column 17, lines 32-51 as allegedly teaching this limitation (Final Office Action mailed June 4, 2009, p. 4). The cited portion of Lumelsky discloses that the intermediary control node monitors the requests and maintains statistics about the number of requests for each particular object identifier, which are used to rank the most requested object identifiers. The most requested ones are flagged and the control node can shape capacity by controlling the number of replicas associated with the object and controlling the placement of the replicas across servers (Lumelsky, col. 17, lines 32-51; see also, Abstract). The statistics about how often the objects are requested in Lumelsky do not determine which functions are applied by the given node and the other nodes in the communication path, as recited in the claimed invention. Lumelsky discloses a single control node that uses demand statistics to distribute replicas of requested objects to various servers in a network. Lumelsky is silent as to "determining whether any of the one or more **local functions** should be applied to the traffic based on criteria, which **defines how the one or more local and remote functions are applied by the given and other nodes** and is available to the given node and other nodes," as recited by claims 1 and 12. Claims 1 and 12 are thus patentable for this additional reason.
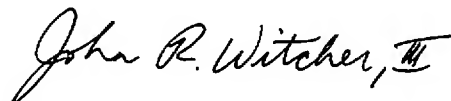
Since Lumelsky does not teach each and every limitation of claims 1 and 12, claims 1 and 12 are patentable. Claims 2-11 and 13-22 depend from claims 1 and 12, respectively, and include all of the limitations of claim 1. Claims 2-11 and 13-22 are thus patentable for at least the same reasons set forth above with respect to claims 1 and 12.

For the above reasons, Appellant respectfully submits that all of the pending claims are in condition for allowance and requests such allowance.

Respectfully submitted,

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